15

response, the summing element combining respective filter responses to produce a total response, the controller controlling the plurality of receiver fingers in response to the total response; and

- a controller coupled to the receiver searcher and the rake receiver, the controller including a memory for storing the response as a stored response, the controller controlling the plurality of receiver fingers in response to the stored response, wherein the controller determines presence of DS-CDMA signals based on the response. 10
- 22. A radiotelephone configured to receive DS-CDMA signals in a communication system including a plurality of base stations, each base station being identified by a unique starting phase of a known pseudorandom noise (PN) sequence, the radiotelephone comprising:
  - a rake receiver having a plurality of receiver fingers;
    - a receiver searcher for detecting pilot signals from the plurality of base stations, the receiver searcher including a matched filter for comparing a detected PN sequence and a predetermined PN sequence and producing a response, and
    - wherein the receiver searcher is configured to detect a plurality of pilot signals from a like plurality of base stations, the controller identifying two or more strongest pilot signals based on the response, the controller assigning respective receiver fingers to the two or more strongest pilot signals for controlling soft handoff while receiving a traffic channel from the plurality of base stations; and
  - a controller coupled to the receiver searcher and the rake receiver, the controller including a memory for storing the response as a stored response, the controller controlling the plurality of receiver fingers in response to the stored response.
- 23. A method for detecting DS-CDMA signals in a communication system, the method comprising the steps of: exiting a low-power mode and entering an active mode;

16

- detecting pilot signals, each of the pilot signals being covered by a respective short pseudorandom noise (PN) sequence, wherein the pilot signals are quadrature modulated, each of the pilot signals including in-phase (I) symbols and quadrature-phase (Q) symbols, wherein the I symbols are spread using an I PN sequence and the Q symbols are spread using a Q PN sequence;
- using a matched filter, comparing each short PN sequence and a predetermined PN sequence comprising the substeps of
  - comparing a detected I PN sequence and a stored I PN sequence, and
  - comparing a detected Q PN sequence and a stored Q PN sequence;
- when a short PN sequence matches the predetermined PN sequence, producing a match signal;
- in response to the match signal, assigning rake receiver fingers to a strongest match set; and
- detecting a paging channel transmitted by a base station. **24**. A method for detecting DS-CDMA signals as recited in claim **23**, the method further comprising the steps of:
- in response to the match signal, determining a DS-CDMA system is present;
- obtaining a synchronization channel corresponding to the short PN sequence; and
- initiating communication with a base station in the communication system, the base station transmitting the synchronization channel.
- 25. A method for detecting DS-CDMA signals as recited in claim 23 wherein the predetermined PN sequence comprises a fixed pattern.
- 26. A method for detecting DS-CDMA signals as recited 35 in claim 23 wherein the predetermined PN sequence comprises a variable pattern.

\* \* \* \* \*